Remarks

A. Claims in the Case

Claims 1, 6, 14, 20, 28, and 33 have been amended. Claim 45 is new. Claims 1-45 are pending.

B. Interview Summary

On April 12, 2005, an Examiner's interview took place by phone including Sanjiv Shah (Primary Examiner), Almari Yuan (Examiner), Eric Meyertons (Reg. No. 34,876), and Russell Henrichs (Reg. No. 50,354). Applicant appreciates the consideration extended during the interview by the Examiners. During the interview, Applicant discussed Balcha's failure to disclose, teach, or suggest at least "differencing each of the separate updated version output data streams with a corresponding original version output data stream to produce data difference representations" as recited in claim 1. Several claim terms were also discussed.

C. The Claims Are Not Obvious Under 35 U.S.C. § 103(a)

Claims 1-44 were rejected as being obvious over U.S. Patent No. 5,859,971 to Bittinger et al. (hereinafter "Bittinger") in view of U.S. Patent No. 6,233,589 to Balcha et al. (hereinafter "Balcha") under 35 U.S.C. § 103(a). Applicant respectfully disagrees with these rejections.

To establish a *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP § 2143.03. The cited art does not appear to teach or suggest all of the features of the rejected claims.

The combination of Bittinger and Balcha does not appear to teach or suggest at least "differencing at least two of the separate updated version output data streams with a corresponding separate original version output data stream to produce data difference representations" as recited in amended claim 1. Neither Bittinger nor Balcha teach differencing separate streams. The Examiner states: "Bittinger does not explicitly disclose 'differencing each of the separate updated version output data streams with a corresponding original version output

data stream' (Office Action dated 2/9/05, page 3)." Applicant respectfully agrees that Bittinger does not teach at least this feature of claim 1.

The Examiner, however, points to Balcha at col. 8, line 64 – col. 9, line 51 for this teaching. Applicant respectfully notes that Balcha teaches: "The differencing mechanism of the present invention determines the locations of identical blocks of data in two versions of the file (Balcha, col. 8, line 67 – col. 9, line 2)." Applicant respectfully asserts that Balcha teaches differencing two complete versions of the file (e.g., see Balcha, illustration at the top of col. 9). Balcha does not suggest differencing "separate" streams resulting from "dividing... the original version" and "dividing... the updated version" as recited in claim 1. Applicant's specification teaches:

> These pre-processor elements may perform arbitrary translations upon the input data stream and split it into one or more **separate** output data streams subject to the constraint that said translated and split data streams can subsequently be recombined and (by addition of reverse translation) used to regenerate the original input data stream. This recombination and reverse translation is accomplished by post-processor elements matched to the pre-processor elements used (as depicted in figures 7 and 10). In this manner the original input data stream comprising the updated version of the data to be differenced is split into a multiplicity of data streams. Each of this multiplicity of data streams may then be independently differenced (using any of the known differencing methods) against the equivalent data stream from the previous version of the data. (emphasis added) (Specification, page 3, lines 6-16).

As noted in the specification, the data streams may be "split" into "separate" data streams for differencing. Applicant respectfully asserts the combination of Bittinger and Balcha does not disclose, teach, or suggest at least "differencing at least two of the separate updated version output data streams with a corresponding separate original version output data stream to produce data difference representations" as recited in amended claim 1. Applicant requests removal of the obviousness rejection of claim 1 and the claims dependent thereon.

Amended claim 14 recites, in part, a similar feature not disclosed, taught, or suggested by Bittinger and Balcha, either separately or in combination. Applicant requests removal of the obviousness rejection of claim 14 and the claims dependent thereon.

Amended claim 28 recites, in part, a similar feature not disclosed, taught, or suggested by Bittinger and Balcha, either separately or in combination. Applicant requests removal of the obviousness rejection of claim 28 and the claims dependent thereon.

D. Many Of The Dependent Claims Are Separately Patentable

Many of the dependent claims are believed to be independently patentable. For example, amended claims 6, 20 and 33 each recite, in part: "wherein the dividing separates volatile components of the input data stream from less volatile components of the input data stream." Applicant submits that this feature, in combination with the features of the independent claims, does not appear to be taught or suggested by the cited art. The Examiner cites Bittinger at col. 10, lines 39-59 for this teaching, however, Bittinger does not appear to address "the dividing separates volatile components... from less volatile components..." In response to this argument, the Examiner states: "the received data stream is temporarily stored to interrogate components of the data stream to determine differences to update the server cache with the newer information (Office Action dated 2/9/05, page 8)." Applicant respectfully asserts, however, that Bittinger does not address "the dividing separates volatile components... from less volatile components...". For example, as stated in the Applicant's specification:

> As a common update to this database may be price changes, (i.e., price is statistically likely to be more volatile than description for this example) it follows that such changes are localized to the data in stream P_2, with P_1 being unchanged. With known differencing methods being applied to each of P_1 and P_2 separately, the size of the sum of the resulting difference representations may be significantly less than the size of the difference representation obtained by applying the same known differencing method to the original form of the input data (U). (Specification, page 14, lines 4-10).

Applicant respectfully submits the cited references do not appear to disclose, teach, or suggest at least "wherein the dividing separates volatile components of the input data stream from less volatile components of the input data stream" as recited in amended claims 6, 20 and 33. Applicant respectfully asserts claims 6, 20, and 33 are also allowable for at least these reasons.

As another example, Bittinger and Balcha do not appear to disclose, teach, or suggest, either separately or in combination, "wherein the volatile components comprise branch targets" as recited in claim 8; "wherein the volatile components comprise data addresses" as recited in claim 9; "wherein the less volatile components comprise instruction code" as recited in claim 10; or "wherein the less volatile components comprise immediate data" as recited in claim 11. Applicant respectfully notes that Bittinger and Balcha do not teach dividing a data stream into "volatile components" (e.g., "branch targets" or "data addresses") or "less volatile components" ("instruction code" or "immediate data"). Applicant respectfully asserts claims 8, 9, 10, and 11 are also allowable for at least these reasons.

The office action included a rejection of claim 2 in view of the Bittinger and Balcha references. Claim 2 includes the feature of "wherein the data difference representations are smaller than a data difference representation created by differencing the original form of the updated version of the input data stream with the original form of the original input data stream" in combination with the features of claim 1. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 2 in combination with the features of claim 1.

The office action included a rejection of claim 3 in view of the Bittinger and Balcha references. Claim 3 includes the feature of "reconstructing the separate updated version output data streams from the data difference representations and the original version output data streams; and combining the separate updated version output data streams into the original form of the updated version of the input data stream through the use of a post-processor" in combination with the features of claim 1. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 3 in combination with the features of claim 1.

The office action included a rejection of claim 4 in view of the Bittinger and Balcha references. Claim 4 includes the feature of "wherein the original form of the original version of the input data stream is empty" in combination with the features of claim 1. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 4 in combination with the features of claim 1.

The office action included a rejection of claim 5 in view of the Bittinger and Balcha references. Claim 5 includes the feature of "wherein the pre-processor comprises decompression algorithms" in combination with the features of claim 1. Applicant respectfully submits that the

cited art does not teach or suggest the features in claim 5 in combination with the features of claim 1.

The office action included a rejection of claim 6 in view of the Bittinger and Balcha references. Amended claim 6 includes the feature of "wherein the dividing separates volatile components of the input data stream from less volatile components of the input data stream" in combination with the features of claim 1. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 6 in combination with the features of claim 1.

The office action included a rejection of claim 7 in view of the Bittinger and Balcha references. Claim 7 includes the feature of "wherein the input data stream is executable code" in combination with the features of claim 1. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 7 in combination with the features of claim 1.

The office action included a rejection of claim 8 in view of the Bittinger and Balcha references. Claim 8 includes the feature of "wherein the volatile components comprise branch targets" in combination with the features of claim 1. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 8 in combination with the features of claim 1.

The office action included a rejection of claim 9 in view of the Bittinger and Balcha references. Claim 9 includes the feature of "wherein the volatile components comprise data addresses" in combination with the features of claim 1. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 9 in combination with the features of claim 1.

The office action included a rejection of claim 10 in view of the Bittinger and Balcha references. Claim 10 includes the feature of "wherein the less volatile components comprise instruction code" in combination with the features of claim 1. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 10 in combination with the features of claim 1.

The office action included a rejection of claim 11 in view of the Bittinger and Balcha references. Claim 11 includes the feature of "wherein the less volatile components comprise immediate data" in combination with the features of claim 1. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 11 in combination with the features of claim 1.

The office action included a rejection of claim 12 in view of the Bittinger and Balcha references. Claim 12 includes the feature of "packaging the data difference representations into a single data stream; compressing the single data stream; and storing the single data stream" in combination with the features of claim 1. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 12 in combination with the features of claim 1.

The office action included a rejection of claim 13 in view of the Bittinger and Balcha references. Claim 13 includes the feature of "transmitting the single data stream; uncompressing the single data stream; and unpackaging the single data stream into the data difference representations" in combination with the features of claim 1. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 13 in combination with the features of claim 1.

The office action included a rejection of claim 15 in view of the Bittinger and Balcha references. Claim 15 includes the feature of "wherein the data difference representations are smaller than a data difference representation created by differencing the original form of the updated version of the input data stream with the original form of the original input data stream" in combination with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 15 in combination with the features of claim 14.

The office action included a rejection of claim 16 in view of the Bittinger and Balcha references. Claim 16 includes the feature of "a second computer system coupled to the network;

a system memory coupled to the second computer system, wherein the system memory stores one or more computer programs executable by the second computer system; wherein the pre-processor is located in the first computer system; and wherein the post-processor is located in the second computer system" in combination with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 16 in combination with the features of claim 14.

The office action included a rejection of claim 17 in view of the Bittinger and Balcha references. Claim 17 includes the feature of "reconstruct the separate updated version output data streams from the data difference representations and the original version output data streams; and combine the separate updated version output data streams into the original form of the updated version of the input data stream through the use of a post-processor" in combination

with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 17 in combination with the features of claim 14.

The office action included a rejection of claim 18 in view of the Bittinger and Balcha references. Claim 18 includes the feature of "wherein the original form of the original version of the input data stream is empty" in combination with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 18 in combination with the features of claim 14.

The office action included a rejection of claim 19 in view of the Bittinger and Balcha references. Claim 19 includes the feature of "wherein the pre-processor comprises decompression algorithms" in combination with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 19 in combination with the features of claim 14.

The office action included a rejection of claim 20 in view of the Bittinger and Balcha references. Amended claim 20 includes the feature of "wherein the dividing separates volatile components of the input data stream from less volatile components of the input data stream" in combination with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 20 in combination with the features of claim 14.

The office action included a rejection of claim 21 in view of the Bittinger and Balcha references. Claim 21 includes the feature of "wherein the input data stream is executable code" in combination with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 21 in combination with the features of claim 14.

The office action included a rejection of claim 22 in view of the Bittinger and Balcha references. Claim 22 includes the feature of "wherein the volatile components comprise branch targets" in combination with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 22 in combination with the features of claim 14.

The office action included a rejection of claim 23 in view of the Bittinger and Balcha references. Claim 23 includes the feature of "wherein the volatile components comprise data addresses" in combination with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 23 in combination with the features of claim 14.

The office action included a rejection of claim 24 in view of the Bittinger and Balcha references. Claim 24 includes the feature of "wherein the less volatile components comprise instruction code" in combination with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 24 in combination with the features of claim 14.

The office action included a rejection of claim 25 in view of the Bittinger and Balcha references. Claim 25 includes the feature of "wherein the less volatile components comprise immediate data" in combination with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 25 in combination with the features of claim 14.

The office action included a rejection of claim 26 in view of the Bittinger and Balcha references. Claim 26 includes the feature of "wherein the computer programs are further executable to: package the data difference representations into a single data stream; compress the single data stream; and store the single data stream on a memory medium coupled to the first computer system" in combination with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 26 in combination with the features of claim 14.

The office action included a rejection of claim 27 in view of the Bittinger and Balcha references. Claim 27 includes the feature of "wherein the computer programs are further executable to: package the data difference representations into a single data stream; compress the single data stream; and store the single data stream on a memory medium coupled to the first computer system" in combination with the features of claim 14. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 27 in combination with the features of claim 14.

The office action included a rejection of claim 29 in view of the Bittinger and Balcha references. Claim 29 includes the feature of "wherein the data difference representations are smaller than a data difference representation created by differencing the original form of the updated version of the input data stream with the original form of the original input data stream" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 29 in combination with the features of claim 28.

The office action included a rejection of claim 30 in view of the Bittinger and Balcha references. Claim 30 includes the feature of "wherein the program instructions are further executable to implement: reconstructing the separate updated version output data streams from the data difference representations and the original version output data streams; and combining the separate updated version output data streams into the original form of the updated version of the input data stream through the use of a post-processor" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 30 in combination with the features of claim 28.

The office action included a rejection of claim 31 in view of the Bittinger and Balcha references. Claim 31 includes the feature of "wherein the original form of the original version of the input data stream is empty" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 31 in combination with the features of claim 28.

The office action included a rejection of claim 32 in view of the Bittinger and Balcha references. Claim 32 includes the feature of "wherein the pre-processor comprises decompression algorithms" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 32 in combination with the features of claim 28.

The office action included a rejection of claim 33 in view of the Bittinger and Balcha references. Amended claim 33 includes the feature of "wherein the dividing separates volatile components of the input data stream from less volatile components of the input data stream" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 33 in combination with the features of claim 28.

The office action included a rejection of claim 34 in view of the Bittinger and Balcha references. Claim 34 includes the feature of "wherein the input data stream is executable code" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 34 in combination with the features of claim 28.

The office action included a rejection of claim 35 in view of the Bittinger and Balcha references. Claim 35 includes the feature of "wherein the volatile components comprise branch targets" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 35 in combination with the features of

claim 28.

The office action included a rejection of claim 36 in view of the Bittinger and Balcha references. Claim 36 includes the feature of "wherein the volatile components comprise data addresses" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 36 in combination with the features of claim 28.

The office action included a rejection of claim 37 in view of the Bittinger and Balcha references. Claim 37 includes the feature of "wherein the less volatile components comprise instruction code" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 37 in combination with the features of claim 28.

The office action included a rejection of claim 38 in view of the Bittinger and Balcha references. Claim 38 includes the feature of "wherein the less volatile components comprise immediate data" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 38 in combination with the features of claim 28.

The office action included a rejection of claim 39 in view of the Bittinger and Balcha references. Claim 39 includes the feature of "wherein the program instructions are further executable to implement: packaging the data difference representations into a single data stream; compressing the single data stream; and storing the single data stream on a memory medium coupled to a first computer system" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 39 in combination with the features of claim 28.

The office action included a rejection of claim 40 in view of the Bittinger and Balcha references. Claim 40 includes the feature of "wherein the program instructions are further executable to implement: transmitting the single data stream from the memory medium coupled to the first computer system to a second computer system over a computer system network; uncompressing the single data stream; and unpackaging the single data stream into the data difference representations" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 40 in combination with the features of claim 28.

The office action included a rejection of claim 41 in view of the Bittinger and Balcha references. Claim 41 includes the feature of "wherein the carrier medium is a memory medium" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 41 in combination with the features of claim 28.

The office action included a rejection of claim 42 in view of the Bittinger and Balcha references. Claim 42 includes the feature of "wherein dividing the original form of the updated version of the input data stream into separate updated version output data streams includes parsing the input data stream according to a data type of the input data stream" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 42 in combination with the features of claim 28.

The office action included a rejection of claim 43 in view of the Bittinger and Balcha references. Claim 43 includes the feature of "wherein dividing the original form of the updated version of the input data stream into separate updated version output data streams includes parsing the input data stream according to a data type of the input data stream" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 43 in combination with the features of claim 28.

The office action included a rejection of claim 44 in view of the Bittinger and Balcha references. Claim 44 includes the feature of "wherein dividing the original form of the updated version of the input data stream into separate updated version output data streams includes parsing the input data stream according to a data type of the input data stream" in combination with the features of claim 28. Applicant respectfully submits that the cited art does not teach or suggest the features in claim 44 in combination with the features of claim 28.

E. New Claim

Applicant respectfully asserts new claim 45 is also allowable. The cited art does not appear to disclose, teach, or suggest "wherein differencing at least two of the separate updated version output data streams with a corresponding separate original version output data stream to produce data difference representations comprises differencing each of the separate updated version output data streams with a corresponding separate original version output data stream to produce data difference representations" as recited in claim 45.

F. Additional Comments

Based on the above, Applicant submits that all of the claims are in condition for allowance. Favorable reconsideration is respectfully requested.

If an extension of time is required, Applicant hereby requests the appropriate extension of time. A fee authorization is enclosed for the excess claims. If any fees are omitted, please appropriately charge those fees to Meyertons, Hood, Kivlin, Kowert & Goetzel Deposit Account No. 50-1505/5543-00301/EBM.

Respectfully submitted,

Eric B. Meyertons
Reg. No. 34,876

Attorney for Applicant

MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.
P.O. Box 398
Austin, TX 78767-0398
(512) 853-8800 (voice)
(512) 853-8801 (facsimile)

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